

We claim:

1. (original) A process for the removal of dissolved organic carbon from water, which process includes the following steps:
 - a) dispersing a magnetic ion-exchange resin in water containing dissolved organic carbon to enable adsorption of the organic carbon from the water onto the resin: and
 - b) separating the magnetic ion-exchange resin loaded with organic carbon from the water.
2. (original) A process according to claim 1 wherein the magnetic ion exchange resin is dispersed by adding the magnetic ion-exchange resin to the water while imparting sufficient shear on the water to disperse the resin in the water.
3. (original) A process according to claim 1 wherein the magnetic ion exchange resin loaded with organic carbon is separated from the water by
 - i) agglomerating the magnetic ion-exchange resin loaded with the organic carbon; and
 - ii) separating the agglomerated magnetic ion-exchange resin loaded with organic carbon from the water.
4. (original) A process according to claim 3 wherein the resin is dispersed by mechanical agitation, mixing pumps immersed in the water or air agitation.
5. (original) A process according to claim 3 wherein the loaded resin is separated from the water by settling, screening or a combination thereof.

6. (original) A process according to claim 3 wherein the loaded resin is separated from the water by settling and wherein the ion exchange resin is more dense than the water.
7. (original) A process according to claim 6 wherein the settled resin is collected by vacuum collection.
8. (original) A process according to claim 6 wherein the settled resin is collected by magnetic transport.
9. (original) A process according to claim 6 wherein the settling is facilitated by tilted plates or tubular modules.
10. (original) A process according to claim 1 which is a process for the removal of contaminants from solution wherein the ion-exchange resin is dispersed in the contaminated water.
11. (original) A process according to claim 1 wherein said process further comprises a step of disinfecting the water.
12. (original) A process for the production of potable water suitable for distribution and consumption from a raw water source which comprises the steps of claim 1.
13. (original) A process for the treatment of waste water which comprises the steps of claim 1.
14. (original) A process according to claim 1 for the removal of dissolved organic carbon from water, which process includes the following steps:
 - a) adding a magnetic ion-exchange resin to water containing dissolved organic carbon, while imparting sufficient shear on the water to disperse

- the resin in the water, thereby enabling adsorption of the dissolved organic carbon onto the magnetic ion-exchange resin;
- b) agglomerating the magnetic ion-exchange resin loaded with the organic carbon;
 - c) separating the agglomerated magnetic ion-exchange resin loaded with organic carbon from the water;
 - d) regenerating a portion of said agglomerated resin, with the remainder being returned to step a), thereby allowing continuous treatment of the water; and
 - e) returning regenerated agglomerated resin to step a).
15. (original) A process according to claim 14 wherein the resin is dispersed by mechanical agitation, mixing pumps immersed in the water or air agitation.
16. (original) A process according to claim 14 wherein the loaded resin is separated from the water by settling, screening or a combination thereof.
17. (original) A process according to claim 16 wherein the loaded resin is separated from the water by settling and wherein the ion exchange resin is more dense than the water.
18. (original) A process according to claim 17 wherein the settled resin is collected by vacuum collection.
19. (original) A process according to claim 17 wherein the settled resin is collected by magnetic transport.
20. (original) A process according to claim 17 wherein the settled resin is collected by filtration.

21. (original) A process according to claim 17 wherein the settling is facilitated by tilted plates or tubular modules.
22. (original) A process according to claim 17 wherein gravity settling is employed.
23. (original) A process according to claim 14 wherein the ion-exchange resin has cationic functional groups.
24. (original) A process according to claim 14 wherein the ion-exchange resin is particulate and the particles have a diameter less than 100 μm .
25. (original) A process according to claim 24 wherein the ion-exchange resin particles have a diameter in the range of from 25 μm to 75 μm .
26. (original) A process according to claim 14 wherein the ion-exchange resin is macroporous.
27. (original) A process according to claim 14 wherein the ion-exchange resin is manufactured from cross-linked polystyrene based polymers.
28. (original) A process according to claim 14 wherein the ion-exchange resin is present in the water in the range of from 0.5 to 5ml of wet resin per litre of water.
29. (original) A process according to claim 11 wherein the resin regeneration process includes the following steps:
 - i) packing the spent resin into a column; and
 - ii) passing brine through the packed column for desorption of the dissolved organic carbon from the resin.

30. (original) A process according to claim 14 which comprises a process for the removal of contaminants from solution wherein the ion-exchange resin is dispersed in the contaminated water.
31. (original) A process according to claim 14 wherein said process further comprises a step of disinfecting the water.
32. (original) A process according to claim 31 wherein the water is disinfected after treatment with ion exchange resin.
33. (original) A process according to claim 32 wherein the water is disinfected with chlorine.
34. (original) A process according to claim 14 wherein said process is a pre-treatment prior to subjecting the pretreated water to membrane filtration.
35. (original) A process according to claim 14 wherein said process is a pretreatment prior to subjecting the pretreated water to a coagulation/sedimentation process.
36. (original) A process according to claim 14 wherein the process further comprises a step of treating the water with activated carbon after treatment with ion-exchange resin.
37. (original) A process according to claim 11 wherein the resin regeneration process includes the following steps:
 - i) adding the magnetic ion-exchange resin loaded with organic carbon to brine;
 - ii) dispersing the loaded magnetic ion-exchange resin in the brine for the desorption of the organic carbon from the magnetic ion-exchange resin to regenerate the resin;

- iii) agglomerating the regenerated magnetic ion-exchange resin; and
 - iv) separating the regenerated magnetic ion-exchange resin from the brine.
38. (original) A process for the production of potable water suitable for distribution and consumption from a raw water source which comprises the steps of claim 1.
39. (original) A process for the treatment of waste water which comprises the steps of claim 1.
40. (currently amended) A water treatment process which comprises the steps of:
- a) removing dissolved carbon from the water by the process of claim 14; and
 - b) subjecting the water from which dissolved carbon has been removed to a coagulation or sedimentation process.
41. (currently amended) A water treatment process which comprises the steps of:
- a) removing dissolved carbon from the water by the process of claim 14; and
 - b) subjecting the water from which dissolved carbon has been removed to a membrane filtration process.
42. (new) A method for treating drinking water comprising:
- (a) providing raw water to a process tank;
 - (b) adding an ion-exchange resin to the process tank to form a raw water/ion-exchange resin mixture;
 - (c) dispersing said resin in the water to enable adsorption of dissolved organic carbon in the water onto the ion-exchange resin;
 - (d) subjecting the water and resin in the tank to membrane filtration to effect separation of the resin while simultaneously filtering the water.